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<120> HYPOALLERGENIC ALLERGY VACCINES BASED ON THE TIMOTHY GRASS
      POLLEN ALLERGEN PHL P 7

<130> 24741-1539

<140> 10/529,441
<141> 2005-03-25

<150> PCT/EP03/010701
<151> 2003-09-25

<150> EP 02021837.6
<151> 2002-09-27

<160> 11

<170> PatentIn version 3.3

<210> 1
<211> 78
<212> PRT
<213> Phleum pratense

<400> 1
Met Ala Asp Asp Met Glu Arg Ile Phe Lys Arg Phe Asp Thr Asn Gly
1          5          10          15

Asp Gly Lys Ile Ser Leu Ser Glu Leu Thr Asp Ala Leu Arg Thr Leu
          20          25          30

Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp
          35          40          45

Thr Asp Gly Asp Gly Phe Ile Asp Phe Asn Glu Phe Ile Ser Phe Cys
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Asn Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
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Ala Asp Asp Met Glu Arg Ile Phe Lys Arg Phe Asp Thr Asn Gly Asp
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Gly Lys Ile Ser Leu Ser Glu Leu Thr Asp Ala Leu Arg Thr Leu Gly
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Ser Thr Ser Ala
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<211> 43

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<223> Description of Artificial Sequence: Synthetic peptide

<400> 3

Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp Thr Asp Gly
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Asp Gly Phe Ile Asp Phe Asn Glu Phe Ile Ser Phe Cys Asn Ala Asn
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Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
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<210> 4

<211> 78

<212> PRT

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Met Ala Asp Asp Met Glu Arg Ile Phe Lys Arg Phe Asp Thr Asn Gly
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Asp Gly Lys Ile Ser Leu Ser Ala Leu Thr Asp Ala Leu Arg Thr Leu
 20 25 30

Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp
 35 40 45

Thr Asp Gly Asp Gly Phe Ile Asp Phe Asn Ala Phe Ile Ser Phe Cys
 50 55 60

Asn Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
 65 70 75

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 20 25 30
 Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp
 35 40 45
 Thr Asp Gly Asp Gly Phe Ile Asp Phe Asn Ala Phe Ile Ser Phe Cys
 50 55 60
 Asn Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
 65 70 75

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 20 25 30
 Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp
 35 40 45
 Thr Asp Gly Ala Gly Phe Ile Asp Phe Asn Ala Phe Ile Ser Phe Cys
 50 55 60
 Asn Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
 65 70 75

<210> 7
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 <212> PRT
 <213> *Alnus glutinosa*

<400> 7
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 20 25 30
 Gly Asp Ala Leu Lys Thr Leu Gly Ser Val Thr Pro Asp Glu Val Lys
 35 40 45
 His Met Met Ala Glu Ile Asp Thr Asp Gly Asp Gly Phe Ile Ser Phe
 50 55 60
 Gln Glu Phe Thr Asn Phe Ala Arg Ala Asn Arg Gly Leu Val Lys Asp
 65 70 75 80
 Val Ala Lys Ile Phe
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 <213> *Cynodon dactylon*

<400> 8
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 20 25 30
 Thr Leu Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu
 35 40 45
 Ile Asp Thr Asp Gly Asp Gly Phe Ile Asp Phe Asp Glu Phe Ile Ser
 50 55 60
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 65 70 75 80

<210> 9
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 20 25 30

Glu Thr Leu Lys Thr Leu Gly Ser Val Thr Pro Glu Glu Ile Gln Arg
 35 40 45
 Met Met Ala Glu Ile Asp Thr Asp Gly Asp Gly Phe Ile Ser Phe Glu
 50 55 60
 Glu Phe Thr Val Phe Ala Arg Ala Asn Arg Gly Leu Val Lys Asp Val
 65 70 75 80
 Ala Lys Ile Phe

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 <213> Betula pendula

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 20 25 30
 Gly Glu Ala Leu Lys Thr Leu Gly Ser Ile Thr Pro Asp Glu Val Lys
 35 40 45
 His Met Met Ala Glu Ile Asp Thr Asp Gly Asp Gly Phe Ile Ser Phe
 50 55 60
 Gln Glu Phe Thr Asp Phe Gly Arg Ala Asn Arg Gly Leu Leu Lys Asp
 65 70 75 80
 Val Ala Lys Ile Phe
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 <212> PRT
 <213> Brassica rapa

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 20 25 30
 Leu Gly Ser Val Thr Pro Asp Asp Val Thr Arg Met Met Ala Lys Ile
 35 40 45
 Asp Thr Asp Gly Asp Gly Asn Ile Ser Phe Gln Glu Phe Thr Glu Phe
 50 55 60

Ala Ser Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe
65 70 75